March 20, 1962 M. J. FORD ETAL 3,025,908

TEMPORARY CAR DOOR

Filed Dec. 8, 1958

Fig. 2

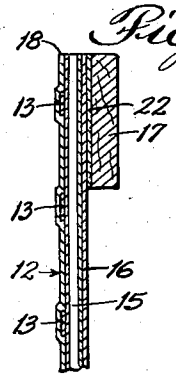


Fig. 1

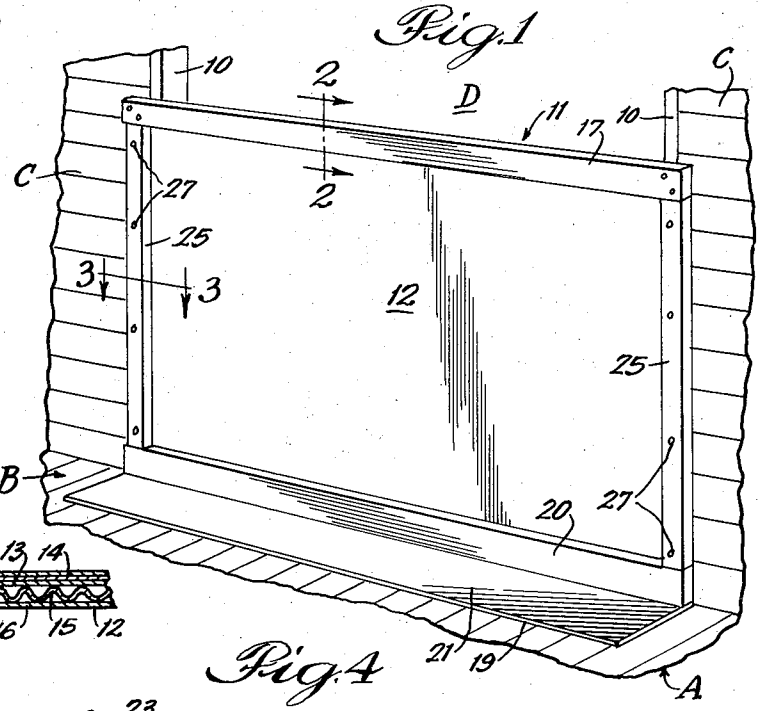


Fig. 3

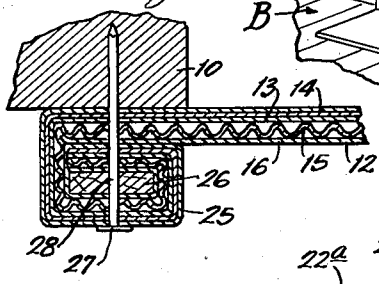
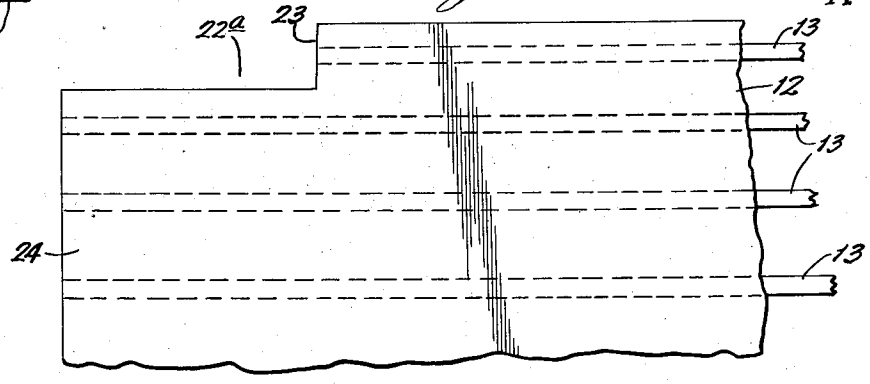


Fig. 4



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TEMPORARY CAR DOOR

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2 Claims. (Cl. 160—368)

This invention relates to a temporary car door, and, more particularly, to a temporary car door of a character that is readily installable across the doorway opening of a freight-carrying vehicle such as a railway boxcar.

It is an object of this invention to provide a novel temporary car door of a character that permits it to be readily and efficiently installed in place across a doorway opening. Another object is to provide a light-weight, disposable closure which is equipped with reinforcing elements effective to withstand the impact of shifting cargoes that might bear against the closure. Still another object is to provide a closure or door of the character just described in which the reinforcing elements cooperate prior to installation to maintain the door in its originally fabricated condition. Yet another object is to provide a temporary closure for a grain-carrying boxcar, or the like, in which the closure is equipped with reinforcing members along the sides thereof which cooperate during installation to provide a rigid frame for the door and, once the door is installed, cooperate with the main part of the door in resisting cargo stress.

A further object is to provide a temporary car door in which a flexible panel is reinforced by a plurality of flat, flexible straps, the panel being generally rectangular in nature and being equipped along its edges with separate, but integrally attached, reinforcing elements. Other objects and advantages of this invention can be seen as this specification proceeds.

The invention will be explained, in an illustrative embodiment, in conjunction with the accompanying drawing, in which—

FIG. 1 is a fragmentary perspective view of a vehicle interior and showing the closure of this invention applied across a doorway opening of the vehicle;

FIG. 2 is an enlarged fragmentary cross-section view taken along the line 2—2 of FIG. 1;

FIG. 3 is an enlarged, fragmentary, cross-sectional view taken along the line 3—3 of FIG. 1; and

FIG. 4 is an enlarged elevational view of the panel portion of the closure seen in the preceding views but prior to its fabrication into the form shown in those figures.

In the illustration given, the letter A designates generally a vehicle such as a railway boxcar used in the transport of freight. A particular use of the invention is in connection with grain-carrying freight cars, and thus the vehicle A may be considered as such. The vehicle A includes a floor B, side walls C, and a doorway D. The doorway D is defined along its vertical sides by vertical framing posts 10.

Extending across doorway D and secured to framing posts 10, is a closure constructed according to the invention and designated generally by the numeral 11. The closure 11 includes a generally rectangular, flat, flexible panel 12 having a length and height sufficient to close the doorway D.

The panel 12 is preferably constructed of a material foldable upon itself, i.e., relatively flexible, and is illustrated as being a corrugated paperboard (best seen in FIG. 3). The panel 12, as seen in FIG. 4, is equipped with a plurality of flat, flexible straps 13. These straps

are preferably provided interiorly of the panel 12, and may be positioned between the outer liner 14 and the corrugated core 15. Completing the panel 12 is an inner liner 16. The straps are advantageously constructed of such flexible materials as plastic or glass fibers.

Extending across the top of closure 11 is a top board 17. As best seen in FIG. 2, the top surface of board 17, which acts as a rigid reinforcing member for the closure 11, is substantially flush with the top edge 18 of panel 12. The bottom edge 19 of panel 12, like the top edge 18, is also straight. A second rigid reinforcing member in the form of pry-board 20 is secured to the inner face of panel 12 and parallel to the bottom edge 19, but positioned a spaced distance therefrom. The portion of the panel 12 between the pry-board 20 and the bottom edge 19 is designated by the numeral 21, and is employed as a floor flap, resting against the floor B of the vehicle A. The straps 13 are omitted from the floor flap 21, the lowermost strap 13 being located adjacent the pry-board 20.

Both the top board 17 and the pry-board 20 may be secured to the inner face of panel 12 by an adhesive such as is designated by the numeral 22 in FIG. 2.

The panel 12, as originally provided, is equipped with notched-out portions at the four corners thereof, as is indicated relative to one corner by the numeral 22*a* in FIG. 4. In FIG. 4, the numeral 23 designates that portion of the vertical side or edge which is intended to be flush with the end of pry-board 17. The vertical edge portions of panel 12 between the top board 17 and the pry-board 20, one of these portions being designated by the numeral 24 in FIG. 4, is folded on itself to form a vertical post or batten element designated by the numeral 25 in FIGS. 1 and 3. Provided centrally of the post 25 as a core, is a rigid reinforcing element 26, which may be either wood or metal. The composite post 25, including the core member 26 along with the main portion of panel 12 lying underneath the post 25, is equipped with an opening 28, through which a nail 27 or other securing means may be driven to secure the post 25 into the framing post 10 of doorway D.

Inasmuch as reinforcement of the vertical sides of the panel is derived from the folded portion 24, the core member 26 can be considerably smaller than the horizontally-extending reinforcing members 17 and 20. This makes it possible for the post 25 and the members 17 and 20 to have the same thickness, i.e., their faces remote from the panel 12 lying in the same plane.

In the operation of the invention, the completed closure 11 is provided at the time of fabrication. In other words, the top board 17 and the pry-board 20 are already secured to the panel, with the side portions intermediate these two reinforcing members being folded on themselves to provide the posts 25. The flap 21, being relatively flexible, can be folded upwardly and inwardly to a position of repose against posts 25, and temporarily tacked thereto, if desired. The closure 11 thus provides a rigid regular unit for shipment, providing, in effect, its own frame in the form of members 17 and 20 and posts 25. The posts 25 extending from abutting relation with the bottom member 20 to the same abutting relation with top member 17, help rigidify the frame during shipment. At the time of installation, it is only necessary to place the closure 11 in the position shown in FIG. 1 and drive a few nails 27 through the aligned openings 28 in order to securely anchor the closure 11 to the vehicle A. At the same time, the flap 21, if previously tacked to the posts 25, can be released, whereupon it falls to the floor and is eventually effectively secured to the floor by the weight of the cargo on it. The pry-board 20, being already in place, serves as a guide for accurately positioning the closure 11 precisely in the bottom corner of

the car A, i.e., where the side walls C and floor B intersect. It is in this area where the pressure of grain is the greatest, and therefore a superior seal between the closure and the car A is required. During the installation, the abutting faces of the posts **25**, with the top and bottom members **17** and **20**, help rigidify and preserve the rectangular character of the closure **11**. This is of distinct advantage over the previously-employed temporary closures where it was necessary often for two or more workmen to very carefully tension the door during the installation so as to make sure that no undue stresses were introduced into the closure at the time of installation. Any inadvertent strain provided in the door might result in the door rupturing under the impact of the shifting cargo.

While, in the foregoing specification, a description of an embodiment of the invention has been set forth in considerable detail for the purpose of explanation, many variations in those details will be perceived by those skilled in the art without departing from the spirit and scope of the invention.

We claim:

1. In a grain-carrying freight car having vertical door posts defining a doorway and providing post nailing surfaces interiorly of said car, a generally rectangular flat-faced paperboard panel closing said doorway and having spaced top and bottom edges, said panel being equipped with outer liners and a corrugated core with the flutes thereof extending vertically, a plurality of flat, spaced-apart, non-metallic, flexible straps mounted between said liners and parallel to said edges and being coextensive with said panel, the lowermost strap being located at a spaced distance from said bottom edge to provide a floor flap portion in said panel, a pair of rigid reinforcing members secured to the face of said panel remote from said surfaces and adjacent the top edge and the lowermost strap, the side edges of said panel between said members being folded upon themselves to provide side battens, with said side battens having ends in abutting relation with said members to provide therewith a generally rectangular frame, and nails extending through said side battens into said door posts.

2. I a grain-carrying freight car having vertical door posts defining a doorway and providing nailing surfaces interiorly of said car, a generally rectangular flat-faced flexible paperboard panel closing said doorway and having spaced top and bottom edges, said panel being equipped with outer liners and a corrugated core with the flutes thereof extending vertically, a plurality of flat, spaced-apart, flexible straps mounted between said liners and parallel to said edges and being coextensive with said panel, the lowermost strap being located at a spaced distance from said bottom edge, a pair of rigid reinforcing members secured to one face of said panel edjacent the top edge and the lowermost strap, respectively, the side edges of said panel between said members being folded upon themselves to provide side battens, with said side battens having upper and lower ends in abutting relation with said members to provide therewith a generally rectangular frame, said side battens and members having generally the same thickness dimensions measured perpendicularly to said one face, whereby the said upper and lower ends present support surfaces for said members adapted to maintain the faces of said side battens and members remote from said panel in the same plane, and nails extending through said side battens into said door posts.

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